

Amendments to the Claims

Claim 1 (Currently amended): A method of identifying a pig which possesses a genotype indicative of the phenotypes increased pH, decreased Minolta, decreased drip loss, and increased rate of weight gain, wherein a pig homozygous for adenine at position 678 of SEQ ID NO:1 is indicative of said pig being more likely to have one or more of the phenotypes than a pig with a guanine at position 678 of SEQ ID NO:1, wherein the increase or decrease is relative to a pig having guanine at position 678 of SEQ ID NO:1, said method comprising directly detecting the nucleotide present at position 678 of SEQ ID NO:1 in both alleles of the pig's MC4R gene to determine the pig's genotype, ~~pigs to determine those with desired meat quality characteristics, comprising:~~
~~obtaining a nucleic acid sample from said pigs;~~
~~assaying for the presence of a polymorphism in a MC4R gene as set forth in SEQ ID NO:1,~~
 ~~wherein said polymorphism at the amino acid level is characterized as a change from an aspartic acid codon to an asparagine codon at an amino acid position corresponding to amino acid 298 of a human MC4R gene product, said polymorphism being associated with meat quality characteristics of pH, color, and drip loss; and~~
~~relating said polymorphism the genotype to said the phenotype.~~

Claims 2-4 (Cancelled).

Claim 5 (Currently amended): ~~The A~~ method of claim 1 wherein the step of assaying for the presence of the polymorphism is a method employing allele-specific oligonucleotides for identifying a pig which possesses a genotype indicative of the phenotypes decreased Minolta and increased rate of weight gain, wherein a pig having an adenine at position 678 of SEQ ID NO:1 is indicative of said pig being more likely to have one or more of the phenotypes than a pig with a guanine at position 678 of SEQ ID NO:1, wherein the increase or decrease is relative to a pig having guanine at position 678 of SEQ ID NO:1, said method comprising directly detecting the nucleotide present in position 678 of SEQ ID NO:1 in an allele of the pig's MC4R gene to determine the pig's genotype, and relating the genotype to the phenotype.

Claims 6-24 (Cancelled).

Claim 25 (Withdrawn): A kit for evaluating a nucleic acid sample from an animal comprising:
a reagent in a container that identifies a polymorphism in a MC4R gene.

Claim 26 (Withdrawn): The kit of claim 25 wherein the reagent is a primer that amplifies the MC4R gene or a fragment thereof.

Claim 27 (Withdrawn): The kit of claim 25 further comprising:
a DNA polymerase which cleaves the MC4R gene,
a forward primer, and
a reverse primer,
wherein the primers are capable of amplifying a region of the MC4R gene which contains a polymorphic site.

Claim 28 (Withdrawn): A primer for assaying the presence of a polymorphic Taq I site in the MC4R gene wherein the primer comprises a sequence selected from the group consisting of SEQ. ID NO:6, SEQ. ID NO:7, SEQ. ID NO:8, SEQ. ID NO:9, SEQ. ID NO:10, and SEQ. ID NO:11.

Claims 29-40 (Cancelled)